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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/044,271	01/10/2002	Ga Lane Chen		7843

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EXAMINER

STEIN, STEPHEN J

ART UNIT PAPER NUMBER

1775

DATE MAILED: 09/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/044,271

Applicant(s)

CHEN ET AL.

Examiner

Stephen J. Stein

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-10 and 16-18 is/are pending in the application.
- 4a) Of the above claim(s) 16-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3 and 8-10 is/are rejected.
- 7) ☒ Claim(s) 4-7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102

2. Claims 1, 3, 9 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6,798,553 (Scobey et al.).

Scobey teaches an optical filter manufactured by providing a substrate wafer of glass, indium phosphide, silica or a silicon wafer (col. 13, lines 21-23), polishing the substrate wafer (col. 14, lines 53-59), then either magnetron or ion beam sputtering (higher than room temperature coating technique) a film stack on the substrate (col. 15, lines 1-3). The reference further teaches that the wedge coating (film stack) can include layers of Ta₂O₅ and SiO₂ (col. 9, lines 32-38). Scobey finally teaches that the coated substrate may later be cut or diced to form smaller fragments known as coupon which may still further diced into one more static optically coupled etalons (col. 20, lines 44-49). With regard to the claimed substrate CTE, transparency of the substrate, and coating endurance to tensile and compressive stress, it is expected that the disclosed laminate would exhibit these properties that fall within the claimed range since the materials are the same as disclosed by applicant.

Claim Rejections - 35 USC § 103

3. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Scobey as applied to claim 1 above.

Although Scobey fails to teach the claimed average roughness of the substrate after polishing, absent a showing of criticality with respect to the claimed roughness it would have

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been obvious to a person of ordinary skill in the art at time of the invention to optimize the polished surface roughness (a result effective variable) through routine experimentation. It has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Allowable Subject Matter

4. Claims 4-7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art of record fails to teach or suggest the claimed glass substrate compositions claimed in dependent claims 4-7.

Response to Arguments

5. Applicants have amended independent claim 1 to include the limitation “wherein the coefficient of thermal expansion of the substrate wafer is within the range from $10 \times 10^{-6}/^{\circ}\text{K}$ to $20 \times 10^{-6}/^{\circ}\text{K}$ ”, and argue that Scobey teaches that the substrate wafer may be glass, indium phosphide, silica or a silicon wafer and that the glass disclosed in the reference is ordinary glass. Applicants further aver that the CTE of ordinary glass material is within a range from $6 \times 10^{-6}/^{\circ}\text{K}$ to $10 \times 10^{-6}/^{\circ}\text{K}$ and therefore the Scobey reference does not anticipate applicant’s independent claim 1. This argument has been carefully considered, but not deemed persuasive. Even assuming that the glass material that Scobey discloses is suitable for the wafer substrate is ordinary glass, applicant admits that the thermal expansion of ordinary glass is $6 \times 10^{-6}/^{\circ}\text{K}$ to $10 \times 10^{-6}/^{\circ}\text{K}$. This overlaps with applicant’s claimed range of $10 \times 10^{-6}/^{\circ}\text{K}$ to $20 \times 10^{-6}/^{\circ}\text{K}$.

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Consequently, the reference teaches every limitation of the claims. The art rejections are maintained.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen Stein whose telephone number is 571-272-1544. The examiner can normally be reached on Monday through Friday from 8:30 a.m. to 5:00 p.m. If the attempts to reach the examiner are unsuccessful, the examiner's supervisor, Deborah Jones can be reached by dialing 571-272-1535. The official fax number is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

September 8, 2005



Stephen J. Stein
Primary Examiner
Art Unit 1775